PROSPECTS FOR DEVELOPMENT OF A U.S. HDTV INDUSTRY

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TUESDAY, AUGUST 1, 1989

U.S. SENATE,
COMMITTEE ON GOVERNMENTAL AFFAIRS,

Washington, DC.

The Committee met, pursuant to notice, at 9:35 a.m., in room SD-342, Dirksen Senate Office Building, Hon. John Glenn, Chairman of the Committee, presiding.

Present: Senators Glenn and Heinz.

OPENING STATEMENT OF CHAIRMAN GLENN

Chairman GLENN. The hearing will be in order.

Today the Committee turns its attention once again to the issue of U.S. trade and technology policy. That is a topic on which this Committee held 7 days of hearings in the last Congress. Our focus this morning is on high definition TV, HDTV, as it is called.

The Congressional Budget Office, CBO, will release at this hearing a report on HDTV requested by this Committee. This is not an all-inclusive study. The report is one part of a longer term CBO study still in progress on R&D consortia requested jointly by this Committee and the Senate Budget Committee, which is chaired by my distinguished colleague, Senator Jim Sasser, who also sits on this Committee.

/~ Many of us in Congress are tired of, indeed we are alarmed by, increasingly seeing new products invented here in the United States, being perfected into mass produced consumer goods abroad, and then being sold back to us. I fervently believe that we need to preempt our foreign competitors from gaining the ability to do this. That is, we need to organize and position ourselves to be able to seize the advantage first.

It is not that our economic rivals are evil; they are doing what any good competitor would do. Simply put, they are taking advantage of a market opportunity before we do. Thus, the blame is not as much on them as it is on us.

I hope HDTV does not turn out to be another case in point. HDTV may be one of the most, if not the most, crucial technological advancements the U.S. electronics industry will have to wrestle with during the upcoming decade just before we enter the 21st century. It goes far beyond being just a prettier TV picture. HDTV has far more implications than that.)

Because of the overwhelming size of theT electronics sector in the U.S. economy, how HDTV develops couldKnave an enormous impact on the Nation's future balance of trade. Because of the importance of HDTV technology in military applications, our national security may also be affected.

For all of these reasons I am very concerned about the role of our electronics industry in developing HDTV, which to me means more than just household television sets. I strongly support the Federal Government fostering HDTV investment by the private sector, and I strongly believe that Government must play a role, particularly with respect to research and development.

Indeed, I co-sponsored an amendment to the FY 1990 Defense Authorization Bill last week on the Senate Floor that would have reduced SDI spending somewhat, and one of the uses of the money saved would have been to increase DARPA's funding for HDTV to $50 million, which I viewed as seed money at this early stage. Unfortunately, that SDI reduction amendment failed.

While I am convinced we must move quickly to define a national strategy for HDTV, I also believe we must proceed in a deliberate fashion. That is why the CBO was asked to write a report for the Committee. They were asked to do an economic appraisal. This was not to be a full-blown economic-engineering analysis. And, since HDTV technology is still rapidly developing, you might say that CBO was shooting at a moving target in their assessment.

I am quite aware, courtesy of last Friday's Washington Post article on a leaked preliminary draft of the CBO report, that CBO's analysis is highly controversial. My hope is that CBO's presentation this morning, along with the reactions by the other witnesses, will serve a very useful purpose in galvanizing the public debate about the importance of HDTV, especially for those of us who care deeply about developing a more visible and unified Federal technology policy. As many of you know, my desire to create a new technology agency that would be a bona fide civilian counterpart to DARPA as part of such a policy is no secret.

So in my view, airing this debate is absolutely critical. We need to allay the fears of those in some quarters who claim that initiatives like HDTV will degenerate into pork barrel politics and who believe, in general, that Government has no direct role to play in fostering greater investment in the application and development of advances in civilian technology.

Clearly, U.S. industry is interested in pushing for HDTV, as evidenced by the amount of investment already taking place and by the investment planned for the future. The Bush Administration is also pushing for HDTV. However, to date the lion's share of the Administration's effort is coming through the Pentagon, which makes me particularly eager to hear this morning what are the Department of Commerce's plans. Finally, the money being invested by both foreign Governments and foreign firms speaks to the promise of the HDTV market.

I suspect that the exchange of views in this morning's hearing will intensify the debate about the extent to which these various pushes for HDTV are in fact good bets to make.

We have three panels of very distinguished witnesses before the Committee this morning and I am very anxious to hear their testimony. Before we do that, I will turn to Senator Heinz for any openOPENING STATEMENT OF SENATOR HEINZ

Senator HEINZ. Thank you very much. First let me commend you on holding this hearing. I must say I am very impressed with the number and quality of the witnesses who are going to give us their time this morning to help us with what I think is a very important issue. I cannot help but reflect that years ago when our forefathers were placed in a difficult situation, they used ingenuity and common sense to find a way of working things out.

Today I suspect we will have to use those same old Yankee ingenuity talents to solve the HDTV quandary. And I say that because I suspect that if we do nothing, the Japanese and the Europeans, who have aggressive programs, are going to gain a near monopoly in HDTV and related systems, and the supporting technologies, everything from new type screen technology to semiconductors, to various other integrating systems.

And on the other hand, if we intervene in the wrong way, we will upset our own notion of the level playing field on which we all compete equally. We will have to find a new way to deal with this issue in a manner that is consistent with our free market principles, but yet make sure that we are not closed out of the sector by other nations' restrictive practices.

If there is going to be an American HDTV industry, I think it has some very high obstacles to surmount. I suppose the most important of those would be the advanced state of our competitors. I was in Japan earlier this year and saw what they are doing on HDTV/The Japanese Government has put over $100 million into their HDTV industry, and that long term investment is about to pay off. The Japanese system is scheduled to go on air as a regular matter in 1990. They have already broadcast via satellite.

The Europeans also are very advanced relative to us in the development of HDTV. They have simply decided that they are not going to allow the Japanese system in the EC. They have created their own standards and have put millions of their own into their project.

It is a combination of all these circumstances which understandably make American business reluctant to invest large sums of time and money in HDTV. And if you were they, why would you? It is going to be much easier for one of our companies to adapt the system to meet regulations than it is to create a whole technology. So why not just sit back, wait, let the other people do the work— they are getting Government money—and if you look at the EC, it is easy to see what is happening there.

It was begun in 1986 fully supported by a number of European nations. There was an understanding that was equally important, and that is that they would be totally protected from the Japanese. And since we were not doing anything, they did not have to worry, as usual, about us. And even with that protected, stable environment, it will be at least 3 more years until the Europeans get anything into service.

So where does that leave an American company? It leaves an American company facing an extraordinarily difficult set of circumstances. We are unlikely to be able to penetrate the Japanese market. That will be the day. The Europeans are pretty frank, they do not want anybody else in there either.

The Japanese, of course, are actively lobbying us to approve their standard so that they can get into our market. Our Government has a demonstrated track record of inability to protect our market against predatory practices. Dumping of TV sets is a good case in point. Dumping of semiconductors is the most recent, where we do not even do a good job of policing the agreement we have got. And so we have a great track record of doing nothing.

For example, and hypothetically, AT&T and General Electric, which have the VCR and TV industry to look upon as precedent, why would they put much

money into HDTV? And the answer is, unless I miss my guess, they are not going to.

Now, CBO, which has done the study may disagree, but I am among the growing number of people like Senator Glenn who believe that HDTV is indeed a critical technology and a critical industry, that its ultimate version represents a synthesis of time, information, and communication. I will not get into a flight of fantasy and prophesy that within 10 years everybody is going to have a briefcase—a long briefcase maybe—that is an HDTV portable computer, et cetera, et cetera.

But I think we ought to remember that in the 1960s the idea of having a portable computer at a time when an adding machine weighed like 20 bricks, was something, to say the least, fanciful, and now many businessmen are taking with them on trips and working on the plane on something much more powerful than the Apple that I originally bought some 7 or 8 years ago.

Mr. Chairman, I will conclude. I just think our challenge is translating expectations into realities in the face of another reality, a severely weakened American electronics industry in which product after product, most notably TVs and VCRs, which are products we have created and which are technologies others, particularly the Japanese, have dominated. The result is an industry that is treading water. And I am not taking any bets on how long it can keep from drowning, because it is consumer product sales that provide funds for investment in R&D, and it is viable consumer products that attract investors.

So if we are going to have an electronics industry in this country, then we have to have a real presence. And right now in the consumer electronics business, we do not have it. So we have a lot to discuss today and I join you, Mr. Chairman, in greeting our distinguished panelists.

- Chairman GLENN.

Thank you very much, Senator Heinz.

Our first witness this morning is Dr. Robert Reischauer, Director, CBO, accompanied by Dr. David Montgomery, Assistant Director, Natural Resources and Commerce Division of CBO and Dr. Philip C. Webre, Principal Analyst, Natural Resources and Commerce Division of CBO.

Dr. Reischauer, if you will lead off, we would appreciate it.

TESTIMONY OF DR. ROBERT D. REISCHAUER, DIRECTOR, CONGRESSIONAL BUDGET OFFICE,1 ACCOMPANIED BY DR. W. DAVID MONTGOMERY, ASSISTANT DIRECTOR, NATURAL RESOURCES AND COMMERCE DIVISION, AND DR. PHILIP C. WEBRE, PRINCIPAL ANALYST, NATURAL RESOURCES AND COMMERCE DIVISION

Dr. REISCHAUER. Mr. Chairman and Senator Heinz, we appreciate the opportunity to appear before this Committee. I will take this occasion to summarize the results of CBO's analysis of the private forecast of the markets for high definition television. This analysis that we are releasing today is, as you noted, an interim product that is part of a broader study of proposed industry research consortia. As such, its scope is limited to an examination of the economic assumptions that underlie the private market forecast for HDTV.

Proposals calling for Federal support to increase the rate at which U.S. firms bring new technology to market have been prompted largely by concerns about the competitiveness of U.S. industry. Proponents of such incentives argue that certain industries are at a disadvantage relative to industries in other countries, because our Government does not provide much support for technologies that are near commercial development.

One product that has been put forward as a candidate for such support is HDTV. Advocates of providing support for HDTV argue that it will represent the next major successful consumer electronics product. They believe that a U.S.-based HDTV industry could affect the future competitiveness of the entire U.S. electronics sector through its development of advanced technology and its use of manufactured inputs such as semiconductors, computers, and flat-panel displays.

To shed light on these issues, CBO's interim report sought answers to two related questions: Will there be a large market for HDTV receivers? Could this market be crucial to the competitiveness of the U.S. electronics sector?

With respect to the first question, CBO's analysis of the three available private market forecasts concluded that they represented the high end of the range of the industry's likely sales. Of course, no one can foresee with great confidence how successful HDTV will be. The success predicted by private market forecasts may be justified by the large price differentials that consumers have been willing to pay in the past for color over monochrome television and by the recent rapid growth in the market for premium television receivers.

However, we could discover that consumers do not value the incremental benefits of HDTV very highly, especially if there are cheaper types of advanced televisions from which they might choose.

The pace at which the HDTV market develops, as well as its size, is also open to question. As has been the case with other high-technology consumer products, such as video cassette recorders (VCRs) and microwave ovens, the introduction of HDTV will probably be

1 See p. 47 for Dr. Reischauer's prepared statement.

followed by a lengthy period during which consumers, producers, and providers of ancillary services grope toward the definition of the product. This suggests that the market forecasts reviewed in the CBO report, which expect HDTV to be successful from the very start, may be too optimistic with respect to the timing of the development of this market.

Even if the optimistic forecasts of HDTV are realized, the question remains whether HDTV is likely to play a crucial role in determining the future competitiveness of the U.S. electronics sector. After evaluating the claims made regarding the impact of HDTV on competitiveness, CBO concluded that either the HDTV markets are unlikely to be big enough to have the hoped for effects, or the sequence of events asserted by the studies is not sufficiently developed to warrant the conclusions that have been drawn.

Even the optimistic forecasts of the potential size of the HDTV market are small relative to other markets in the electronics sector. The projected world market for HDTVs and related VCRs is forecast to be less than $30 billion—in 1988 dollars—by the year 2010. Last year the world market for electronic equipment reached $461 billion, and it grew by some $54 billion during 1988.

It seems implausible to suggest that such a small and uncertain future market will be more important as a driver of technology, as a provider of economies of scale, or as a determiner of competitive success than will be the growth of present markets, which are assured and are in existence now.

U.S.-based electronics manufacturing firms already have many incentives to maintain their competitiveness, and a large enough market in which they can enjoy economies of scale. Thus it is hard to believe that HDTV will, by itself, play a pivotal role in the competitiveness and technological development of the electronics sector as a whole.

Advocates make the case that HDTV will improve the competitiveness of the electronics sector because HDTV technologies will serve as technology drivers

for the rest of the electronics sector. They argue that a network of common technology and components will make the knowledge gained in HDTV useful in other major electronic goods.

While this may be true, little concrete evidence has been marshaled to support this claim. Simply stating that HDTV will contain high technology components is not enough. Outside of display and imaging technology, HDTV technology is not unique. For example, the memory chips in HDTV are widely used in other products today, so the contribution of HDTV to that market is likely to be marginal.

Even the display and imaging technology is not unique to HDTV receivers. Producers of computer workstations already use highresolution displays. U.S. computer firms will continue their research and development (R&D) and other investments in an effort to advance their strong position in the market for advanced workstations and high resolution imaging. Thus it is not at all clear that HDTV will act to drive or significantly spur advances in this technology.

The conclusions reached by the CBO study do not necessarily mean that Federal support for HDTV development is without merit. Support for HDTV might be justified for reasons other than competitiveness in the electronics sector—for instance, national prestige, scientific advancement, or military applications. In addition, development of the HDTV market, although small on its own, might have a role to play in a broader strategy of Government involvement in the U.S. electronics sector, including attempts to create a U.S. industry that manufactures a whole range of consumer electronics.

Finally, to the extent that the effort to foster HDTV development comes from the laudable desire to reduce the trade deficit, the policy prescription may be misguided. The trade deficit exists not because the United States suffered a loss of technological leadership, but rather because the U.S. economy is saving too little and devoting too much of its resources to current consumption. If reducing the trade deficit is the paramount objective, there is a more direct solution—namely, increasing national saving by decreasing the budget deficit.

Let me conclude by noting that my remarks today are not meant to foreclose the possibility that greater public intervention to foster U.S. competitiveness may be warranted. However, the list of possible interventions is long, and Congress should weigh the alternatives rather than examine requests for support by this industry or that on a piecemeal basis.

Thank you.

Chairman GLENN.